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# CONGRESSIONAL TESTIMONY

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## Asia's Growing Hunger for Energy: U.S. Policy and Supply Opportunities

### Testimony before Foreign Affairs Committee: Subcommittee on Asia and the Pacific

United States House of Representatives

September 8, 2016

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My name is David Kreutzer. I am Senior Research Fellow in Energy Economics and Climate Change at The Heritage Foundation. The views I express in this testimony are my own and should not be construed as representing any official position of The Heritage Foundation.

Affordable and reliable energy are the lifeblood of a modern economy. This is evident when supply disruptions provide a negative shock to our economy. Examples here would be the Arab Oil Embargo of the 1970s and the Iraq war of the early 1990s. Energy-economy link is also evident when supply increases boost the economy. Here, the best example would be the U.S. oil and gas revolution brought on by smart-drilling technology. Events and policies that cripple energy access hobble the economy. Policies and technologies that improve access to affordable and reliable energy help the economy grow.

### **Drilling Our Way to Lower Prices**

A common refrain of President Barak Obama was, “We can’t just drill our way to lower gas prices.”<sup>1</sup> However, we did drill our way to lower gas prices. Using smart-drilling technology and hydraulic fracturing, the U.S. nearly doubled its oil production between 2008 and 2015, which has led to dramatically lower world petroleum prices.

These lower prices leave consumers with more money in their pockets. The new technology gives American producers an ability to rapidly ramp up production. This fast-supply response guts the threat

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<sup>1</sup>For examples, see news release, “Weekly Address: Investing in a Clean Energy Future,” The White House, March 10, 2012, <https://www.whitehouse.gov/the-press-office/2012/03/10/weekly-address-investing-clean-energy-future> (accessed June 17, 2016); Andrew Restuccia, “Obama: Nation Can’t Drill its Way out of Soaring Gas Prices,” *The Hill*, May 6, 2011, <http://thehill.com/policy/energy-environment/159705-obama-more-drilling-is-not-the-solution> (accessed June 17, 2016); and “Obama: Can’t Drill Our Way to Lower Gas Prices,” video, YouTube, <https://www.youtube.com/watch?v=bEyPkY0Kf-Y> (accessed June 17, 2016).

of production cuts by foreign oil exporters. As a result, instability in the Middle East no longer threatens economic growth everywhere else and OPEC is no longer Master of the Energy Universe.<sup>2</sup>

Even more amazing is that this American energy renaissance occurred despite the Obama Administration's policies that blocked oil and gas production on the federal estate. In the early months of his first term the Department of Interior cancelled oil and gas lease sales.<sup>3</sup> In 2011, the Interior Department instituted a de facto moratorium on drilling for offshore oil and gas.<sup>4</sup> Perhaps most telling was the Environmental Protection Agency's (EPA's) outright hostility toward conventional energy production as displayed by Al Armendariz. A political appointee, Mr. Armendariz was an EPA regional administrator whose stated policy was to "crucify" select oil and gas companies so that others would be too terrified to challenge his policies.<sup>5</sup> It was almost as if President Obama's "Can't just drill our way to lower gas prices" statement was a command and not simply a seriously flawed observation.

It should not be surprising that oil and gas production on the federal estate has been stagnant for most of President Obama's tenure. However, the U.S. and energy consumers worldwide have been fortunate that his Administration's hostility to oil and gas production had less impact on state and private lands. These state and private lands are where the energy renaissance blossomed.

### **What if Federal Policy Were Pro-Energy?**

Increasing the supply of energy will reduce prices. The lower prices allow consumers to spend less on heating, cooling, lights, and on fuel for their cars. This means more is left over to spend on everything else. In addition, lower energy prices lead to lower costs of production for producers. The lower production costs combined with the higher residual income on the part of consumers means producers can sell more output. Producing more output requires more labor. As the benefits of lower energy prices circulate through the economy there will be more jobs and higher income.

As amazing as the U.S. energy renaissance has been, one wonders how much better and broader it might be with federal policies that do not hinder production and distribution of energy? While it is not a direct answer to that question, sensitivity analysis produced by the Energy Information Administration (EIA) can give us a hint.

In its yearly reference work, the *Annual Energy Outlook*, the EIA runs high-resource and low-resource side cases in addition to its reference case. Though not intended to model any particular policy, the side cases illustrate the importance of energy to the economy.

The side case of interest, here, is the high-resource side case. The high-resource case assumes 50 percent greater resource availability than the reference case. Comparing economic projections of these

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<sup>2</sup>Chriss Street, "OPEC Accepts Defeat in Anti-Fracking War with U.S.," *American Thinker*, May 30 2015, <http://www.americanthinker.com/blog/2015> (accessed September 6, 2016).

<sup>3</sup>Amy Joi O'Donoghue, "Salazar Halts Sale of Utah Oil, Gas Leases," *Deseret News*, February 5, 2009, <http://www.deseretnews.com/article/705282698/Salazar-halts-sale-of-Utah-oil-gas-leases.html?pg=all> (accessed June 17, 2016).

<sup>4</sup>Institute for Energy Research, "Obama's Offshore Plan: One Giant Leap Backwards," May 8, 2012, <http://instituteforenergyresearch.org/analysis/obamas-offshore-plan-one-giant-leap-backwards/> (accessed June 17, 2016).

<sup>5</sup>Christopher Helman, "EPA Official Not Only Touted 'Crucifying' Oil Companies, He Tried It," *Forbes*, April 26, 2012, <http://www.forbes.com/sites/christopherhelman/2012/04/26/epa-official-not-only-touted-crucifying-oil-companies-he-tried-it/#e26e2097ac32> (accessed June 17, 2016).

two cases gives a point of reference for pro-energy policies. We have been able to do just that at The Heritage Foundation.

The Heritage Foundation has installed a clone of the EIA's National Energy Modelling System (NEMS). In addition Heritage also runs the IHS/Global Insight macroeconomic model that is paired with NEMS. This combination allows us look at a variety of economic outcomes when comparing the reference and high-resource cases.<sup>6</sup>

Subtracting the projected employment in the reference case from the projected employment in the high-resource case gives the employment differential for each year. The process for income differential was similar. For each year through 2035, the reference-case income is subtracted from the high-resource-case income.

In brief, the comparison found greater energy access would lead to more jobs and greater income. Running the model through the year 2035 produced a peak employment differential of 1,500,000 jobs and an average employment differential of 700,000. The projected income differential was also positive. The bump in annual personal income for a nominal family of four averaged about \$2,000 per year. Under the high-resource case aggregate, gross domestic product through 2035 would be \$3.7 trillion greater than under the reference case.

Energy-intensive sectors of the economy see larger than average improvements with greater energy availability. For instance, by 2035, machinery manufacturing would see roughly 7 percent greater employment under the high-resource case than in the reference case.

Though a 50 percent higher resource availability is far from trivial, it should be noted that actual oil production in 2015 was 50 percent higher than the EIA's reference-case projection done in 2008. In the *2008 Annual Energy Outlook* the projected domestic oil production was 6.16 million barrels per day. Actual 2015 production was 9.40 million barrels per day. Actual natural gas production in 2015 was 38 percent higher than that projected in the EIA reference case published in 2008.<sup>7</sup>

## **Economic Security Dividend**

In a 2012 regulatory impact analysis, the EPA quantified the benefits of reducing oil imports.<sup>8</sup> It was an attempt to estimate the external cost of importing oil, but it simultaneously gave a value for the reciprocal external benefit of domestic oil production because producing a barrel domestically obviates the need for a barrel of imported oil.

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<sup>6</sup>For more in-depth analysis and an explanation of the methodology, see Kevin D. Dayaratna, David W. Kreutzer, and Nicolas Loris, "Time to Unlock America's Vast Oil and Gas Resources," Heritage Foundation *Backgrounder* No. 3148, September 1, 2016, <http://www.heritage.org/research/reports/2016/09/time-to-unlock-americas-vast-oil-and-gas-resources>.

<sup>7</sup>U.S. Energy Information Administration, *Annual Energy Outlook 2008*, June 2008, <https://www.eia.gov/oiaf/archive/aeo08/index.html> (accessed June 20, 2016), and U.S. Energy Information Administration, *Annual Energy Outlook 2016*, July 7, 2016, <http://www.eia.gov/forecasts/aeo/> (accessed June 20, 2016).

<sup>8</sup>U.S. Environmental Protection Agency, *Joint Technical Support Document: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, August 2012, p. 4-31, <https://www3.epa.gov/otaq/climate/documents/420r12901.pdf> (accessed September 5, 2016).

The reported mid-point value for 2020 was \$17.64 per barrel in 2010 dollars. That is, for every barrel produced in the U.S. that displaces an imported barrel, there are benefits of \$17.64 that accrue to those who do not either consume or produce that barrel. In the not-quite-accurate jargon of the EPA, this is the per-barrel social benefit of domestic oil production—a measure of the benefits that are not captured by either buyer or seller in the energy market.<sup>9</sup>

To be fair, I have been very critical of the EPA's other social-cost estimates, in particular its estimate of the Social Cost of Carbon.<sup>10</sup> However, the EPA also needs to be consistent. If they claim there are external benefits of cutting imports, they need to apply that benefit to domestic production as well as to energy conservation.

For instance, if \$17.64 per barrel is a good estimate of this external benefit, then for the years 2009 through 2015, the total external benefits of the increased oil production (over and above the 2008 levels) was more than \$80 billion. The benefit was more than \$28 billion in 2015 alone. Since nearly all of the increased production is from hydraulically fractured wells, we could call these figures the external benefit of fracking.

These calculated external benefits are for the U.S. and do not include the benefits of economic stability for the rest of the world. Including worldwide impacts (as the EPA does in its Social Cost of Carbon calculations) would increase the estimated external benefit of our domestic oil production.

## Conclusion

Increasing the availability of affordable and reliable energy makes an economy stronger. This relationship is easiest to see in the case of petroleum. In the 1970s and again around 2007–2008 we saw the negative economic impact of high energy prices brought on by shocks to the petroleum markets. As the more recent shock was playing out, game-changing technology spread across the U.S. oil patch. Smart-drilling technology combined with hydraulic fracturing added the vast shale resources to our petroleum reserves. Old production fields were revitalized and new fields came online. U.S. oil production nearly doubled in less than a decade. Energy modeling shows that expanded production can add hundreds of thousands (if not millions) of jobs and add thousands of dollars per year to average family income.

Applying EPA estimates of external benefits of reducing oil imports reaches a similar conclusion about the benefit of increased energy production. Unsubsidized and profitable domestic oil production makes for a stronger and more stable economy.

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<sup>9</sup>Social cost is the sum of private costs and external costs. What the EPA calls the Social Cost of Carbon is actually an attempt to estimate the external cost of carbon. The definition of social benefit is similar. It is the sum of private and external benefits.

<sup>10</sup>For example, Kevin D. Dayaratna and David W. Kreutzer, “Unfounded FUND: Yet Another EPA Model Not Ready for the Big Game,” Heritage Foundation *Backgrounder* No. 2897, April 29, 2014, <http://www.heritage.org/research/reports/2014/04/unfounded-fund-yet-another-epa-model-not-ready-for-the-big-game>, and Kevin D. Dayaratna and David W. Kreutzer, “Loaded DICE: An EPA Model Not Ready for the Big Game,” Heritage Foundation *Backgrounder* No. 2860, November 21, 2013, <http://www.heritage.org/research/reports/2013/11/loaded-dice-an-epa-model-not-ready-for-the-big-game>.

Perversely, our federal energy policy has been antagonistic toward domestic oil and gas production (to say nothing of coal). The entire oil and gas revolution has taken place on state and private land. Locking up the vast oil and gas reserves on the federal estate is bad policy for the American economy.

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